

AUG 07 2006

PTO/SB/17 (01-06)

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

**FEE TRANSMITTAL**  
**For FY 2006**☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 500

**Complete If Known**

|                      |                       |
|----------------------|-----------------------|
| Application Number   | 09/608,103            |
| Filing Date          | 06/30/2006            |
| First Named Inventor | Christopher L. Hamlin |
| Examiner Name        | Carl G. Colin         |
| Art Unit             | 2136                  |
| Attorney Docket No.  | K35A0631              |

**METHOD OF PAYMENT** (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_

☒ Deposit Account Deposit Account Number: 23-1209 Deposit Account Name: WESTERN DIGITAL

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee

☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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**FEE CALCULATION** (All the fees below are due upon filing or may be subject to a surcharge.)**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

| Application Type | FILING FEES |                       | SEARCH FEES |                       | EXAMINATION FEES |                       | Fees Paid (\$) |
|------------------|-------------|-----------------------|-------------|-----------------------|------------------|-----------------------|----------------|
|                  | Fee (\$)    | Small Entity Fee (\$) | Fee (\$)    | Small Entity Fee (\$) | Fee (\$)         | Small Entity Fee (\$) |                |
| Utility          | 300         | 150                   | 500         | 250                   | 200              | 100                   |                |
| Design           | 200         | 100                   | 100         | 50                    | 130              | 65                    |                |
| Plant            | 200         | 100                   | 300         | 150                   | 160              | 80                    |                |
| Reissue          | 300         | 150                   | 500         | 250                   | 600              | 300                   |                |
| Provisional      | 200         | 100                   | 0           | 0                     | 0                | 0                     |                |

**2. EXCESS CLAIM FEES****Fee Description**

Each claim over 20 (including Reissues)

| Fee (\$) | Small Entity Fee (\$) |
|----------|-----------------------|
| 50       | 25                    |
| 200      | 100                   |
| 360      | 180                   |

Each independent claim over 3 (including Reissues)

Multiple dependent claims

**Total Claims**      **Extra Claims**      **Fee (\$)**      **Fee Paid (\$)**

\_\_\_\_\_ - 20 or HP = \_\_\_\_\_ x 50 = \_\_\_\_\_

HP = highest number of total claims paid for, if greater than 20.

**Indep. Claims**      **Extra Claims**      **Fee (\$)**      **Fee Paid (\$)**

\_\_\_\_\_ - 3 or HP = \_\_\_\_\_ x 200 = \_\_\_\_\_

HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

**Total Sheets**      **Extra Sheets**      **Number of each additional 50 or fraction thereof**      **Fee (\$)**      **Fee Paid (\$)**

\_\_\_\_\_ - 100 = \_\_\_\_\_ / 50 = \_\_\_\_\_ (round up to a whole number) x \_\_\_\_\_ = \_\_\_\_\_

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Filing a brief in support of an appeal (FC 1402)

Fees Paid (\$)

500

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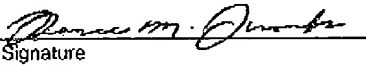
|                   |                                                                                     |                                   |        |           |                |
|-------------------|-------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|----------------|
| Signature         |  | Registration No. (Attorney/Agent) | 57,862 | Telephone | (949) 672-9474 |
| Name (Print/Type) | Jason T. Evans, Esq.                                                                |                                   |        | Date      | August 7, 2006 |

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**Western  
Digital**
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**AUG 07 2006**

 Western Digital Corporation  
 20511 Lake Forest Drive, E118-G  
 Lake Forest, California 92630  
 Tel: 949.672.7000  
 Fax: 949.672.6604

|                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                            |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <b>TO:</b> COMMISSIONER FOR PATENTS, U.S. PATENT & TRADEMARK OFFICE<br><b>FAX NO:</b> (571) 273-8300 (GENERAL/MAIN FAX LINE)<br><b>NO. OF PAGES:</b> Cover + 14                                                                                                                                                                                                                      |                                                                                                                            |                       |
| <b>CERTIFICATE OF FACSIMILE TRANSMISSION</b><br>I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office on the date indicated below.<br><br><b>Renee M. Franks</b><br>Typed/Printed Name<br><br>Signature<br><b>August 7, 2006</b><br>Date | APPLICATION NO.                                                                                                            | 09/608,103            |
|                                                                                                                                                                                                                                                                                                                                                                                      | FILING DATE                                                                                                                | 06/30/2000            |
|                                                                                                                                                                                                                                                                                                                                                                                      | FIRST NAMED INVENTOR                                                                                                       | Christopher L. Hamlin |
|                                                                                                                                                                                                                                                                                                                                                                                      | ART UNIT                                                                                                                   | 2136                  |
|                                                                                                                                                                                                                                                                                                                                                                                      | CONFIRMATION NO.                                                                                                           | 1085                  |
|                                                                                                                                                                                                                                                                                                                                                                                      | EXAMINER                                                                                                                   | Carl G. Colin         |
|                                                                                                                                                                                                                                                                                                                                                                                      | ATTORNEY DOCKET NO.                                                                                                        | K35A0631              |
| <b>TITLE</b>                                                                                                                                                                                                                                                                                                                                                                         | SECURE DISK DRIVE COMPRISING A SECURE DRIVE KEY AND A DRIVE ID FOR IMPLEMENTING SECURE COMMUNICATION OVER A PUBLIC NETWORK |                       |

**ATTACHED WITH THIS SUBMISSION:**

1. Transmittal Form (1 page)
2. Fee Transmittal for FY 2006 (1 page)
3. Brief on Appeal (12 pages)

**PLEASE CONFIRM RECEIPT OF THIS TRANSMISSION. IF THERE IS ANY PROBLEM WITH THIS TRANSMISSION, PLEASE CALL RENEE M. FRANKS AT (949) 672-7871.**

**CONFIDENTIALITY NOTE**

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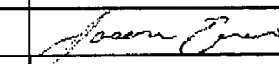
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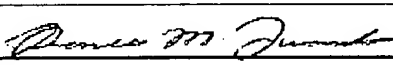
|                                                                                         |                        |                       |
|-----------------------------------------------------------------------------------------|------------------------|-----------------------|
| <b>TRANSMITTAL FORM</b><br><br>(to be used for all correspondence after initial filing) | Application Number     | 09/608,103            |
|                                                                                         | Filing Date            | 06/30/2000            |
|                                                                                         | First Named Inventor   | Christopher L. Hamlin |
|                                                                                         | Art Unit               | 2136                  |
|                                                                                         | Examiner Name          | Carl G. Colin         |
| Total Number of Pages in This Submission                                                | Attorney Docket Number | K35A0631              |

| ENCLOSURES (Check all that apply)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached<br><input type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input type="checkbox"/> Information Disclosure Statement<br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Reply to Missing Parts/Incomplete Application<br><input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation<br><input type="checkbox"/> Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) _____<br><input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC<br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input type="checkbox"/> Other Enclosure(s) (please identify below): |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

|              |                                                                                     |          |        |
|--------------|-------------------------------------------------------------------------------------|----------|--------|
| Firm Name    | Western Digital                                                                     |          |        |
| Signature    |  |          |        |
| Printed name | Jason T. Evans, Esq.                                                                |          |        |
| Date         | August 7, 2006                                                                      | Reg. No. | 57,862 |

## CERTIFICATE OF TRANSMISSION/MAILING

|                                                                                                                                                                                                                                                                                                               |                                                                                     |      |                |
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| Signature                                                                                                                                                                                                                                                                                                     |  |      |                |
| Typed or printed name                                                                                                                                                                                                                                                                                         | Renee M. Franks                                                                     | Date | August 7, 2006 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Serial Number: 09/608,103

AUG 07 2006

Patent  
Docket: K35A0631In re Application of:  
Christopher L. Hamlin

Serial No.: 09/608,103

Filed: 06/30/00

Title: SECURE DISK DRIVE COMPRISING A  
SECURE DRIVE KEY AND A DRIVE ID  
FOR IMPLEMENTING SECURE  
COMMUNICATION OVER A PUBLIC  
NETWORKGroup Art Unit: 2136  
Examiner: Colin, Carl G.BRIEF ON APPEALMAIL STOP APPEAL BRIEF - PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir,

The following appeal brief is submitted pursuant to a Notice of Appeal filed on 05/26/06 for the above-identified application.

REAL PARTY IN INTEREST

The real party in interest for the above-identified patent application is Western Digital Technologies, Inc. (see assignment REEL/FRAME: 011901/0024 identifying Western Digital Technologies, Inc. as assignee of the entire right, title and interest of the above-identified patent application).

RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences related to the instant appeal.

08/09/2006 AWONDAF1 00000034 231209 09608103

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Western Digital Technologies, Inc.

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Patent

Docket: K35A0631

STATUS OF CLAIMS

Claims 1-16 are pending.

Claims 1-16 stand rejected under 35 USC §103(a).

STATUS OF AMENDMENTS

There are no pending amendments.

SUMMARY OF CLAIMED SUBJECT MATTER

FIG. 2 (described on page 6, lines 8-24, of applicant's specification) shows a secure disk drive 20 according to an embodiment of the present invention as comprising a disk 22 for storing data, and an input 24 for receiving an encrypted message 26 from a client disk drive, the encrypted message 26 comprising ciphertext data and a client drive ID identifying the client disk drive. The secure disk drive 20 comprises a secure drive key 34 and an internal drive ID 38. A key generator 30 within the secure disk drive 20 generates a client drive key 32 based on the client drive ID and the secure drive key 34, and an internal drive key 36 based on the internal drive ID 38 and the secure drive key 34. The secure disk drive 20 further comprises an authenticator 56 for verifying the authenticity of the encrypted message 26 and generating an enable signal 50, the authenticator 56 is responsive to the encrypted message 26 and the client drive key 32. The secure disk drive further comprises a data processor 40 comprising a message input 42 for receiving the encrypted message 26 from the client disk drive, and a data output 58 for outputting the ciphertext data 46 to be written to the disk 22. The data processor 40 further comprises an enable input 48 for receiving the enable signal 50 for enabling the data processor 40, and a key input 51 for receiving the internal drive key 36, the internal drive key 36 for use in generating a message authentication code. The data processor 40 outputs reply data 54

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comprising the message authentication code. The secure disk drive 20 outputs a reply 60 to the client disk drive, the reply 60 comprising the reply data 54 and the internal drive ID 38.

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-16 stand rejected under 35 USC §103(a) as unpatentable over U.S. Patent No. 6,226,750 to Trieger in view of U.S. Patent No. 6,473,861 to Stokes and in view of U.S. Patent No. 5,931,947 to Burns et al..

The examiner asserts that Trieger discloses a secure disk drive for receiving an encrypted message from a client disk drive, the encrypted message comprising ciphertext data and a device ID identifying the client disk drive. The examiner further asserts that Trieger discloses a secure disk drive that generates a client drive key based on the client drive ID and a secure drive key (state information) for use in authenticating the client drive ID. The applicant respectfully disagrees.

#### ARGUMENT

##### I. THE ISSUE UNDER 35 U.S.C. §103(a)

- A. The rejection should be reversed because the state information disclosed by Trieger is not a secure drive key

The examiner asserts that Trieger discloses a secure disk drive that generates a client drive key based on the client drive ID and a secure drive key (state information) for use in authenticating the client drive ID. However, the state information disclosed by Trieger merely refers to information associated with a particular communication session between a client and a server. The server saves the state information so that the client does not have to resend the state information with each new communication request (see col. 9, lines 20-27). The state information cannot be considered a secure drive key because a client drive key is not generated based on the state information, with an authenticator responsive to the generated client drive key, as recited in the claims.

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In Trieger, a server initially authenticates a client by the client sending authentication information, such as a password, to the server (see col. 7, line 65 to col. 8, line 12). If the authentication information is approved, the server generates a first key that identifies the client (device ID), and transmits the key to the client (col. 8, lines 12-15). During a subsequent communication session, the server authenticates the client by validating the key (device ID) sent to the server in a communication request (see col. 8, lines 63-66). As described at col. 9, lines 4-9, Trieger teaches to validate the key by "comparing the value of key 92 with key values stored in a key storage database at the server 52....[or] the key may be self-validating in that the server 52 may be able to immediately recognize the key's information or format." Nowhere does Trieger (or the other relied upon prior art, alone or in combination) disclose or suggest that, when an encrypted message including a client drive ID is received, an authenticator verifies the authenticity of the encrypted message responsive to a client drive key generated based on the client drive ID and a secure drive key.

The examiner also asserts that Burns discloses a reply that may contain an internal drive ID so that devices can authenticate each other. This interpretation of Burns is incorrect. Burns discloses a secure disk drive for authenticating messages received from a client user or subscriber and does not disclose devices authenticating each other. (See Abstract, wherein "all encryption is done by the clients, rather than by the devices.") As discussed by the applicant in the specification at page 4, lines 4-6, in Burns, "the keys used by the clients for encrypting data and generating the message authentication codes are generated external to the devices by a system administrator which is susceptible to attack."

In the final office action, the examiner asserts that Burns discloses (col. 3, line 65 through col. 4, line 7) "the network storage devices can be comprised of existing direct access disk devices and files can be copied directly from on storage device to another in a secure manner, the networks clients only involvement would be to initiate the action." However, this does not mean that the storage devices authenticate one another, it merely means that files can be safely copied from one storage device to another because the files have already been encrypted by the clients. In any event, the examiner concedes it is the network clients that "initiate the action", which means the request to transfer files comes from a network client and not another storage device.

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In Burns, it is the requests generated by the network clients that are authenticated by the storage device and not requests generated by other storage devices.

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CONCLUSION

Reversal of the rejections in this appeal is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 23-1209, and please credit any excess fees to such deposit account.

Respectfully submitted,

Date: August 7, 2006

By: \_\_\_\_\_

Jason T. Evans, Esq.  
Reg. No. 57,862

WESTERN DIGITAL TECHNOLOGIES, INC.  
20511 Lake Forest Drive  
Lake Forest, CA 92630  
Tel.: (949) 672-9474  
Fax: (949) 672-6604

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### CLAIMS APPENDIX

A complete listing of the claims on appeal:

- 1 1. A secure disk drive comprising:
  - 2 (a) a disk for storing data;
  - 3 (b) an input for receiving an encrypted message from a client disk drive, the encrypted  
4 message comprising ciphertext data and a client drive ID identifying the client disk  
5 drive;
  - 6 (c) a secure drive key;
  - 7 (d) an internal drive ID;
  - 8 (e) a key generator for generating a client drive key based on the client drive ID and the  
9 secure drive key, and an internal drive key based on the internal drive ID and the  
10 secure drive key;
  - 11 (f) an authenticator for verifying the authenticity of the encrypted message and  
12 generating an enable signal, the authenticator responsive to the encrypted message  
13 and the client drive key;
  - 14 (g) a data processor comprising:  
15 a message input for receiving the encrypted message from the client disk drive;  
16 a data output for outputting the ciphertext data to be written to the disk;  
17 an enable input for receiving the enable signal for enabling the data processor;  
18 a key input for receiving the internal drive key, the internal drive key for use in  
19 generating a message authentication code; and  
20 a reply output for outputting reply data, the reply data comprising the message  
21 authentication code; and
  - 22 (h) an output for outputting a reply to the client disk drive, the reply comprising the reply  
23 data and the internal drive ID.

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1 2. The secure disk drive of claim 1, wherein the secure drive key is immutable.

1 3. The secure disk drive of claim 1, wherein the secure drive key is mutable.

1 4. The secure disk drive of claim 1, wherein the authenticator comprises a means for  
2 verifying the access rights of the client drive ID.

1 5. The secure disk drive of claim 1, wherein the secure drive key comprises tamper resistant  
2 circuitry.

1 6. The secure disk drive of claim 1, wherein the key generator comprises tamper resistant  
2 circuitry.

1 7. The secure disk drive as recited in claim 1, wherein the authenticator comprises tamper  
2 resistant circuitry.

1 8. The secure disk drive as recited in claim 1, wherein the data processor further comprises  
2 cryptographic facilities.

1 9. A secure disk drive comprising:  
2 (a) a disk for storing data;  
3 (b) an input for receiving an encrypted message from a client disk drive, the encrypted  
4 message comprising ciphertext data and a client drive ID identifying the client disk  
5 drive;  
6 (c) a secure drive key;  
7 (d) an internal drive ID;

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- 8 (e) a key generator for generating a client drive key based on the client drive ID and the  
9 secure drive key, and an internal drive key based on the internal drive ID and the  
10 secure drive key;
- 11 (f) an authenticator for verifying the authenticity of the encrypted message and  
12 generating an enable signal, the authenticator responsive to the encrypted message  
13 and the client drive key;
- 14 (g) a data processor comprising:  
15 a message input for receiving the encrypted message from the client secure disk  
16 drive;  
17 a data input for receiving ciphertext data read from the disk;  
18 an enable input for receiving the enable signal for enabling the data processor;  
19 a key input for receiving the internal drive key, the internal drive key for use in  
20 generating a message authentication code; and  
21 a reply output for outputting reply data, the reply data comprising the ciphertext data  
22 read from the disk and the message authentication code; and
- 23 (h) an output for outputting a reply to the client disk drive, the reply comprising the reply  
24 data and the internal drive ID.

1 10. The secure disk drive of claim 9, wherein the secure drive key is immutable.

1 11. The secure disk drive of claim 9, wherein the secure drive key is mutable.

1 12. The secure disk drive of claim 9, wherein the authenticator comprises a means for  
2 verifying the access rights of the client drive ID.

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13. The secure disk drive of claim 9, wherein the secure drive key comprises tamper resistant circuitry.
14. The secure disk drive of claim 9, wherein the key generator comprises tamper resistant circuitry.
15. The secure disk drive as recited in claim 9, wherein the authenticator comprises tamper resistant circuitry.
16. The secure disk drive as recited in claim 9, wherein the data processor further comprises cryptographic facilities.

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EVIDENCE APPENDIX

None.

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RELATED PROCEEDINGS APPENDIX

None.

1